

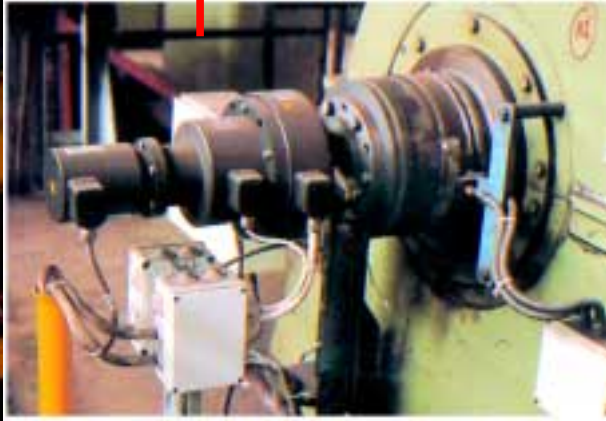
**Analog-Tachos** (DC Tachogenerators, Tachometers)

Information for the User

- Criteria for Selection ■ Combinations
- Optimum Signal Transmission
- Application Examples ■ Technical Data



Hot, harsh atmospheres: This rolling mill needs rugged drives. The triple combination from HÜBNER – Digital-Tacho (encoder) + Analog-Tacho + overspeed switch (HOG 22 + HTA 11 + ES 100) – reliably and precisely delivers the signals needed for the electronic system.



Paper sheet cutting machines – here in China, the mother country of paper – must operate with maximum precision to cut sheets of large size accurately. The cross-cutter drive control receives speed signals from a direct-mounted GTB 9 hollow-shaft tachogenerator. An incremental encoder detects positions via a coupling in the rear support housing.

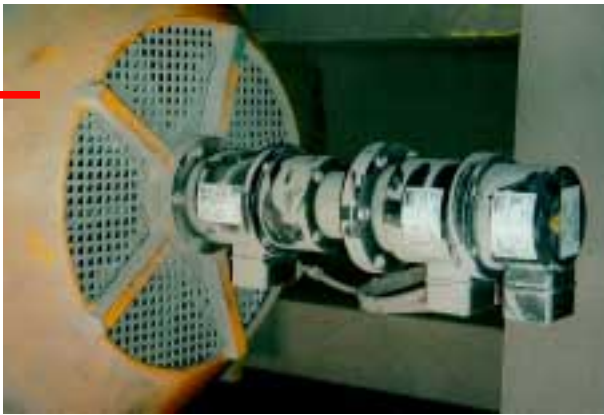
Ice cold mobile: This automatic guided vehicle must operate reliably in the deep-freeze store at -30 °C. The tachogenerator mounted on the wheel drive is the GT 5 from HÜBNER.





Soft start, smooth running, controlled speed:  
 The HÜBNER LongLife® tachogenerator GMP 1.0 reliably controls the speed of this ski-lift drive at all temperatures and in all weathers.

Dust-tight: Unaffected by dust and harsh atmosphere in the refuse incinerating plant, the triple combination of Analog-Tacho + Digital-Tacho + overspeed switch (TDP 0,2 + POG 9 + FSL) operates efficiently without interruption.

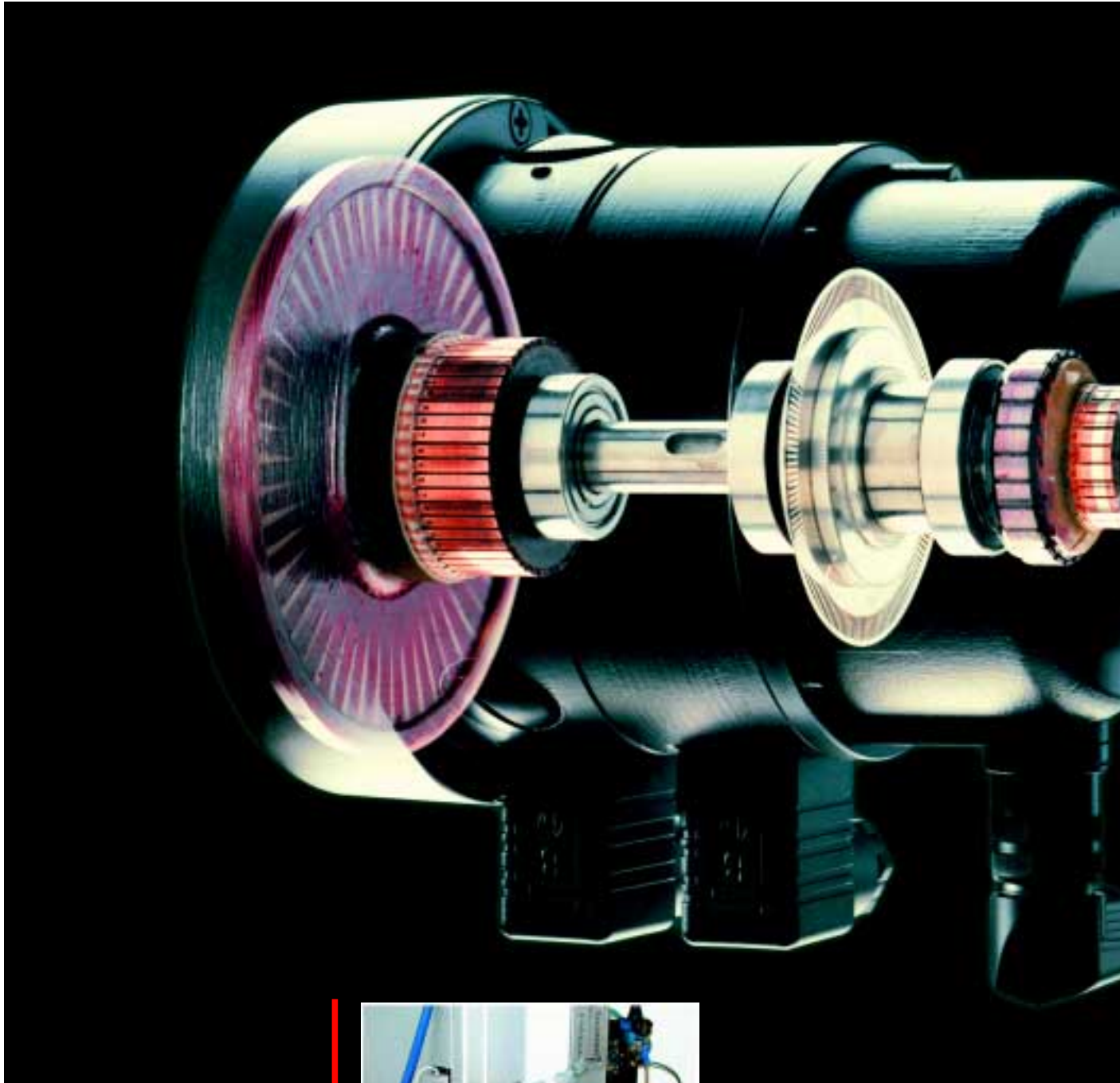


Moving heavy loads safely: Outdoor installations are constantly exposed to the effects of changes in weather – particular at the seaside. HÜBNER LongLife® tachogenerators are designed for high precision and reliability – like the GMP 1,0 + POG 9 combination shown here on a container crane.



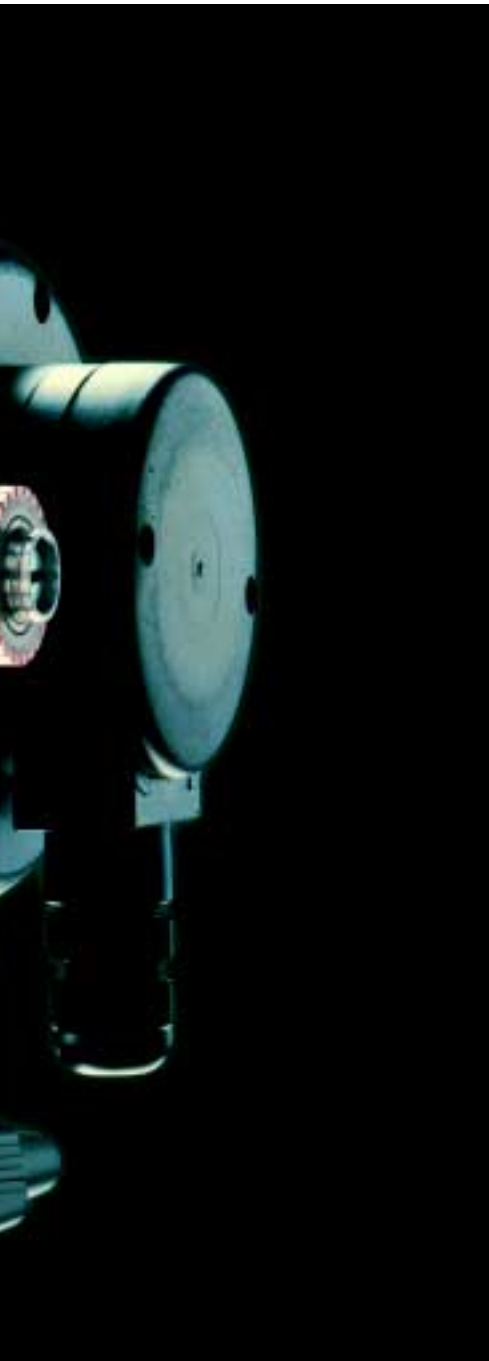


Rapid production: One of the largest European manufacturers of tin cans uses HÜBNER Analog-Tachos (GT 7) on the drives of their machines for extremely high output.



Highly dynamic disc-type motors can exploit their control capabilities with direct-mounted components: The Digital- and Analog-Tacho sit directly on the motor shaft – for example, as shown here on a special machine for embedding silver tracks in HÜBNER commutators.





In use around the clock across the world: TDP 0,2, shown here with NEMA flange on an American machine for coating base materials for nickel cadmium batteries.



Test passed: Only to be seen on the test-bench is the vehicle – the LongLife® tachogenerator TDP 0,09 is already proven on the drives.



The precision of digital exposure systems largely depends on the smooth operation of the drives – a typical application of small, highly dynamic hollow-shaft tachogenerators, for example, the GT 5.

### Source of Photographs

ALSTOM  
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# HÜBNER

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**The height of precision  
in speed and position:  
HÜBNER Technology.**

**LongLife® DC Tachogenerators**  
with the patented silver track  
embedded into the commutator.  
We support this with a two year  
guarantee.

**Digital-Tachos** (incremental  
encoders) in **HeavyDuty®**  
technology: rugged electrical  
and mechanical construction.

**LowHarmonics® Sinus-Tachos:**  
Sinewave signals with  
significantly low harmonics –  
a new level of precision.

**Overspeed switches:**  
mechanically by centrifugal  
actuator or electronically with  
own or external voltage supply.

**ExtendedSpeed®** angular  
and linear acceleration sensors  
with no speed limit.

**Combinations:** Digital-Tachos,  
dc tachogenerators or over-  
speed switches in one single  
housing with continuous shaft.



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